

Series “W” Turbo Meters

Model W-3500 CFS

(Compact Fire Service) Bronze Magnetic Drive Size 8” (DN 200mm)

DESCRIPTION

Model: W-3500 CFS Turbo Meter with Compact Strainer is based on the turbine principle of measurement; its operating range is from 35 to 3500 gallons per minute (8 to 795 m³/h) with registration accuracy of 100% ± 1.5% of actual thruput.

Conformance To Standards: Sensus Compact Fire Service Turbo Meters comply with ANSI/AWWA Standard C703 (most recent revision). Each assembly is performance tested to insure compliance.

Performance: The meter is intended for use where measurement of fire service water usage is desired. The meter and strainer are Approved by Factory Mutual and Listed by Underwriter’s Laboratories, Inc. for use on domestic services as well as fire service connections to public water supplies. Applications should be where moderate to heavy flow demands are anticipated in addition to providing fire protection service capability. The meter and strainer are pressure tested, calibrated and accuracy tested before shipment.

No additional adjustments are required by field personnel.

Construction: The meter consists of two basic assemblies—the maincase and the measuring chamber. Straightening vanes in the maincase minimize the swirl upstream of the meter so as to direct the flow evenly to the rotor. The measuring chamber assembly includes the rotor, adjusting vane (for calibration) and sealed Direct Reading (DR) register.

Magnetic Drive: The Right Angle Magnetic Drive eliminates conventional worm or miter gears normally required for horizontally mounted rotors or turbine measuring elements. Registration is accomplished by combining the magnetic actions of a driver magnet (embedded in the rear face of the rotor), a three-legged flux carrier and a cylindrical follower magnet attached to the gear train shaft inside the register’s magnet well. Water flowing through the meter causes the rotor (with magnet) to turn, as one of the magnet poles passes one of the flux carrier legs, the magnetic force is transmitted through the flux carrier leg to the follower magnet, causing the register shaft to rotate. The only moving part in water is the rotor assembly.



W-3500 CFS Turbo Meter with FM/UL Strainer



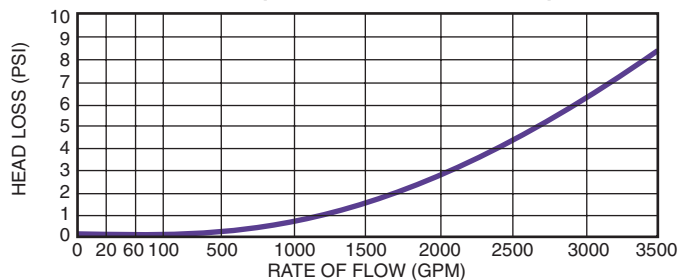
Intelligent Communications Encoder (ICE) Register

Rotor: The thermoplastic rotor with ceramic bearing rotates on a ceramic sleeved stainless steel shaft. The rotor assembly is virtually weightless in water, thus adding to bearing life.

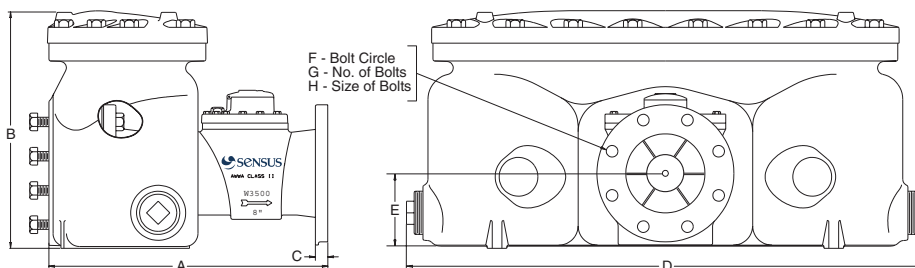
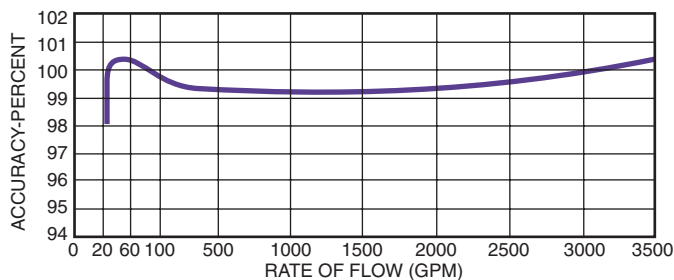
Maintenance: The measuring chamber can be removed, repaired and/or replaced without disturbing the maincase in the line. A spare chamber can be utilized in the event maintenance is required. Cover plates are also available to keep the line in service while the measuring chamber is repaired and recalibrated. Factory testing, repair and measuring chamber exchange programs are available.

Strainer: The meter is furnished with Factory Mutual Approved and U.L. Listed Sensus CFS Strainer which must be installed immediately upstream of the meter. Two drain plugs are provided to flush the screen under pressure. The strainer contains a “V” shaped screen with four times the equivalent open area of a 8” (200mm) pipe. Three 3/4” threaded holes are provided on the cover plate to assist in cover removal only.

Head Loss Curve (With FM/UL Strainer)



Accuracy Curve (With FM/UL Strainer)



DIMENSIONS AND NET WEIGHTS

Meter and Pipe Size	Normal Operating Range GPM		Connections	Dimensions								Net Weight	Shipping Weight
	Minimum	Maximum		A	B	C	D	E	F	G	H		
8" / DN 200mm	35 / 8m ³ /hr	3500 ¹ / 795m ³ /hr	Flanged	27-7/8" / 708mm	20-1/2" / 521mm	11/16" / 17mm	45-1/2" / 1156mm	6-3/4" / 172mm	11-3/4" / 300mm	8 / 8	3/4" / 19mm	630 lbs. / 287 kg	685 lbs. / 311 kg

¹ For continuous flows; 4400 GPM (998m³/h) maximum for intermittent flows.

SPECIFICATIONS

SERVICE	Measurement of cold water up to 80°F (27°C) with flow in one direction only.
OPERATING RANGE	Continuous Flows: 35 to 3500 gpm (8 to 795 m ³ /h) Intermittent Flows: 4400 gpm max. (998 m ³ /h)
TURBO METER	100% ± 1.5% of actual thruput
LOW FLOW	95% minimum at 30 gpm (6.8 m ³ /h)
PRESSURE LOSS	Meter and Strainer—8.5 psi at 3500 gpm (.5 bar at 450 m ³ /h)
MAXIMUM OPERATING PRESSURE	175 psi (12 bar)
FLANGE	8" U.S. ANSI B 16.1 Class 125. Optional drillings, if specified British Standard B.S. 10 or Metric Standard ISO R2084
REGISTER	Hermetically Sealed Direct Reading Register with Low Flow Indicator. Remote reading unit optional.

METER REGISTRATION	1,000,000,000 gallons 1,000 gallons/sweep hand revolution 100,000,000 cubic feet 100 cubic feet/sweep hand revolution 10,000,000 m ³ 10 m ³ /sweep hand revolution
MATERIALS	Maincase—Bronze Measuring Chamber—Bronze Straightening Vanes—Stainless Steel Rotor—Thermoplastic Radial Bearing—Ceramic Trim—Stainless Steel Thrust Bearings—Tungsten Carbide Magnets—Ceramic
STRAINER MATERIALS	Body and Cover—Cast Iron Screen—Stainless Steel